Mauskopf et al. in 2005 and 2007. **CONCLUSIONS:** Based on the results we suggest the following definition for BIA: "A budget impact analysis is a form of health economic evaluation. Its purpose is to predict the financial consequences of the introduction or removal of an intervention from the current health care setting. Therefore BIA is a framework to synthesize the best available evidence. Rather than calculating a precise impact number it provides a valid model to the decision maker, enabling him to understand the relative effects of his decisions. The analysis is undertaken by modeling two scenarios where the reference scenario is the status quo and the second scenario a simulation of the decision to be made. The model parameters are chosen according to the framework requirement of the decision maker."

PRM33

EPISODES OF CARE AND THEIR COSTS BASED ON ICPC-2 CLASSIFICATION: THREE MONTH FOLLOW-UP STUDY IN FINLAND

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OBJECTIVES: To explore patient characteristics, resource use and costs related to different episodes of care (EOC) in Finnish health care. EOC is a health problem needing testing, diagnosis, care or follow-up from its first presentation by the patient to health care until the completion of the last health care contact for it. Literature around costs of episodes (COE) is scarce. **METHODS:** Primary and secondary care data was collected during the three months prospective, non-randomized follow-up study (Effective Health Centre) using questionnaires and electronic health record. Setting included three primary health care practices in Pirkanmaa, Finland. 622 (41% of potential) patients were recruited during one week period. Patients that had doctor/nurse appointment on the recruiting day and agreed to participate were included. Patients visiting specialized health guidance clinic for pregnant women, children and mothers were excluded. The main outcome measures were patient characteristics, resource use and costs classified based on the International Classification of Primary Care (ICPC-2) episode title codes. Resource use was valued with health care providers' 2012 unit costs. Social Insurance Institution costs (e.g. outpatient drugs) were excluded. **RESULTS:** On average, patient had 1.22 EOCs during the three months. Patient characteristics and resource use differed between the EOC-classes. Class L 'Musculoskeletal' had the highest number of episodes (17%). The most common (8%) single EOC was 'upper respiratory infection'. The mean COE was €390 (SE €61) and the median COE was €165 (IQR €118-289) during the three month follow-up. The most expensive class was K 'Circulatory', with a mean COE of €910. The most expensive single COE (€32,546) was in the group K. The most expensive one percent of COEs summed up covered 36% of total COEs. **CONCLUSIONS:** Patient characteristics, resource use and costs differed between the ICPC-2 classes, which could be taken into account in evaluations, planning and pricing.

PRM34

DO THE US PANEL RECOMMENDATIONS HOLD FOR EUROPE? INVESTIGATING THE RELATION BETWEEN QUALITY OF LIFE VERSUS WORK-STATUS, ABSENTEEISM AND PRESENTEEISM

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OBJECTIVES: In the last twenty years there has been an intense debate on how to value lost productivity in economic evaluations. According to the Washington panel, lost productivity influences health-related quality of life (HRQoL) and should thus be considered a health effect instead of a cost to avoid double counting. Until now empirical evidence on the inclusion of income loss when valuing health states is not decisive. We examine the relationship between three aspects of lost productivity (work-status, absenteeism and presenteeism) and patient or social valuation of health-related quality of life. **METHODS:** Cross-sectional survey data from a total of 830 respondents with a rheumatic disorder from four Western-European countries. Health-related quality of life was expressed in either the European societal utility using EQ-5D-3L or the patient valuation using EQ-VAS. Linear regression analyses were performed to examine the impact of work-status (four categories), absenteeism (absent from paid work during the past three months), and presenteeism (QQ method) on EQ-5D utilities and VAS scores taking demographic characteristics and disease severity (duration, pain and restriction) into account. **RESULTS:** The relationship between work-status, absenteeism or presenteeism and HRQoL is stronger for patient valuation than societal valuation. Compared to work-status and presenteeism is the relationship between absenteeism and HRQoL even less explicit. However, results for all measures of work are only marginal significant and negligible compared to the influence of restriction due to disease we studied. **CONCLUSIONS:** In four European countries, analyses among patients with a rheumatic disorder do not fully support the claim of the Washington panel that lost productivity has a significant relationship with HRQoL, and this is even more apparent for absenteeism than for work-status and presenteeism. Therefore absenteeism should continue to be included in the costs and not in the QALY. Findings need to be confirmed in other disease areas.

PRM35

COST OF PREVIOUSLY TREATED CHRONIC LYMPHOCYTIC LEUKEMIA (CLL) AND INDOLENT NON-HODGKIN'S LYMPHOMA (INHL) IN THE UNITED KINGDOM (UK)

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OBJECTIVES: Accurate cost data are required to inform cost-effectiveness assessments of novel treatments in the UK for NICE appraisals. Up to now, levels of resource use to manage CLL and iNHL have mainly been based on clinical expert opinion. However, recently, two key primary care databases in the UK (THIN and CPRD) were linked with Hospital Episode Statistics (HES) at the patient level, thereby providing additional information on secondary care in England. This study aimed to generate more accurate resource use for the management of CLL and iNHL by using the THIN-HES database. **METHODS:** First, a MEDLINE and UK Health Technology Appraisals (HTAs) reviews were undertaken to identify studies documenting the cost of previously-treated iNHL and CLL in the UK. Then, to collect patients health care resource use, THIN database linked to the HES dataset was analysed. **RESULTS:** Three HTAs were identified as relevant, and cost estimates relied on assumptions from clinical experts. Assumptions varied as TA193 related to relapsed CLL assumed that health care visits were three times more frequent post-progression (3 consultations/month: £86) than pre-progression (1 consultation/month: £28.67) while another, TA202, assumed a rather constant number of visits across the two health states (1 clinic visit per month: £121.11). Therefore, analyses of the THIN database linked to HES were undertaken, including more than 1 000 patients. OPCS4 codes and READ codes in the HES and THIN databases respectively, were used to identify treatments prescribed and procedures undertaken. Costs were estimated by applying unit costs from national references. **CONCLUSIONS:** To our knowledge, this analysis is the first retrospective observational study to assess the cost of managing previously-treated CLL and iNHL in the UK. This study will serve as an important resource in the health economic evaluation of emerging therapies. This method suggests a greater standardization of disease management costs across HTAs.

PRM36

A SYSTEMATIC REVIEW OF METHODS TO ASSESS THE ECONOMIC IMPACT OF AIR POLLUTION

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OBJECTIVES: Despite the fact that short and long-term effects of the exposure to air pollution on health have been extensively analyzed, estimates of the health care economic impact of such effects are still limited. We therefore carried out a systematic review of the literature, with the aim of identifying the current major research focuses in the field and the topics that will need to be addressed in the future. **METHODS:** We searched the electronic databases MEDLINE and EMBASE, in which we applied respectively the following algorithms: 1) "((("cost of illness" [MeSH Terms] OR "health care costs" [MeSH Terms] OR "health expenditures" [MeSH Terms]) AND "environmental pollution" [MeSH Terms]) OR (Pollution [Title/Abstract] AND (Expenditure [Title/Abstract] OR Expenditures [Title/Abstract] OR cost [Title/Abstract] OR costs [Title/Abstract]) AND (health [Title/Abstract] OR health care [Title/Abstract]))"; 2) "'health care cost'/exp AND 'pollution'/exp". Searches were limited to article written in English and Italian, without any date restriction. **RESULTS:** The initial selections identified 775 records in MEDLINE and 466 in EMBASE, 149 of which were classified as relevant. They focused on a wide range of pollutants, including volatile organic compounds, nitrogen dioxide, pesticides, ozone, particulate matter and tobacco smoke. Most of the studies assessed the health impact of environmental pollutants using direct and indirect cost estimates acquired from literature, mainly relying on cost of illness methods; 27 papers used an individual direct health care costs approach, but they usually didn't involve indirect costs in the final computations. Finally, only a few studies distinguished between short-term and long-term effect of air pollution. **CONCLUSIONS:** The results of our review identified two main topics that deserve further research: future health impact assessments should integrate indirect costs estimates with information from the direct modeling of real-life health care costs; the short- and long-term economic impacts should be clearly separated.

PRM37

COST-EFFECTIVENESS ANALYSIS OF IPILIMUMAB IN PREVIOUSLY UNTREATED PATIENTS WITH UNRESECTABLE MALIGNANT MELANOMA IN SCOTLAND

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OBJECTIVES: This analysis assessed the cost effectiveness of ipilimumab 3mg/kg as first-line treatment for metastatic melanoma. As ipilimumab has an existing second-line recommendation, the decision problem is ipilimumab first-line followed by best supportive care (BSC), compared with Scottish clinical practice - dacarbazine or vemurafenib first-line followed by ipilimumab. **METHODS:** In line with SMC requirements, an area under the curve model was built comparing first-line ipilimumab, dacarbazine and vemurafenib. The model utilised progression, survival and utility data from CA184-024 for ipilimumab/dacarbazine and dacarbazine, survival data from MDX010-20 for ipilimumab second-line, and survival and progression data from BRIM-3 for vemurafenib. MDX010-20 and observational data, using the approved regimen, were tested within scenario analyses assessing the performance of ipilimumab 3mg/kg at first-line. 2013 costs were taken from Scottish or UK official sources. **RESULTS:** Economic analysis, including patient access schemes for ipilimumab and vemurafenib, shows that ipilimumab first-line followed by BSC is cost-effective versus dacarbazine first-line followed by ipilimumab (incremental costs: £10,502, incremental quality-adjusted life-years [QALYs]: 0.33, incremental cost-effectiveness ratio [ICER]: £31,481). Compared with ipilimumab first-line followed by BSC, the sequence vemurafenib first-line followed by ipilimumab is associated with incremental QALYs (0.26) but also incremental costs (£33,306), resulting in a not cost-effective cost/QALY trade-off (ICER = £126,482), i.e. ipilimumab first-line should be the preferred option. A scenario analysis that compared ipilimumab first-line with vemurafenib first-line alone resulted in ipilimumab being the dominant treatment option. Comprehensive sensitivity analyses identified survival parameters as having the largest impact on model results. Ipilimumab remained cost-effective at a threshold of £50,000 per QALY gained against both comparators. **CONCLUSIONS:** First-line ipilimumab treatment for melanoma is cost-effective, and as a first-line option it would expand clinician choice, enabling selection of the most appropriate therapy for patients depending on their disease characteristics and BRAF mutation status.